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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/671,832	09/29/2003	Atsushi Murakami	117250	3516
25944	7590	11/29/2007		
OLIFF & BERRIDGE, PLC P.O. BOX 320850 ALEXANDRIA, VA 22320-4850			EXAMINER HUFFMAN, JULIAN D	
			ART UNIT 2853	PAPER NUMBER
			MAIL DATE 11/29/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/671,832

Applicant(s)

MURAKAMI ET AL.

Examiner

Julian D. Huffman

Art Unit

2853

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 26 September 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 12-14 is/are allowed.
- 6) ☒ Claim(s) 1,4,5,8,9,11 and 15 is/are rejected.
- 7) ☒ Claim(s) 3,6,7 and 10 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 4, 5, 8, 9, 11 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pan et al. (6,866,359 B2) in view of Silverbrook (U.S. 6,322,194 B1)

Pan et al. discloses:

With regards to claim 1, an electronic device including a controlled part (fig. 4, element 44), comprising:

a first housing (fig. 4, element 44) that includes the controlled part (fig. 3, element 100, fig. 1, element 72) and a non-volatile first storage medium (element 78), the first storage medium stores control information regarding the controlled part (column 6, lines 35-67, the memory stores the characteristics of the piezoelectric element, which is controlled by driver circuitry, that functions as the controlled part);

a controller that is detachable from the first housing (fig. 1, the processor 52 is provided on the printer in a second housing, which is detachable from the first housing of the cartridge), reads the control information from the first storage medium when attached to the first housing and controls the controlled part based on the read control information (the processor reads the memory and controls the piezoelectric ejectors of

the cartridge based on the control information, column 6, lines 35-39), wherein the first housing includes a mechanical module (a piezoelectric element is a mechanical module) and a drive source that provides a drive force to the mechanical module (driving circuitry provides a drive force to the mechanical module, the drive circuitry being clearly shown in U.S. 6,000,773 to Murray, the entirety of which is incorporated by reference on column 6, lines 38-49 of Pan, see Murray figs. 5 and 6 and column 4, lines 38-41), and the controlled part is a driver circuit board (element 47, Murray) of the drive source; and

a power supply device capable of supplying drive power to the drive source while changing a current value or pulse width modulation duty value of the drive power (Pan discloses a power supply since one is required to power the device).

With regards to claim 4, a second housing (printer housing) that is detachable from the first housing (the cartridge of the first housing is detachable from the second printer housing) and makes up a contour of the electrical device in connection with the first housing (the first and second housings together form the electronic device or printer), wherein the first housing includes a first connector connected to the controlled part (the cartridge includes a connector which connects to the controlled part, as shown in fig. 1, arrow between processor 52 and print logic 70, further, fig. 4 and column 9, lines 8-22 describe connections between the cartridge of the first housing and the printer of the second housing), the second housing includes the controller (fig. 1, controller 52 is on the second/printer housing) and a second connector connected to the controller (the printer housing has a connector which connects to the controller, as described on column 9, lines 8-22), and the first connector and the second connector

are connected when the second housing is attached to the first housing (when the cartridge is connected to the printer, the connectors of the housings are connected).

With regards to claim 5, the second housing is attached to a bottom of the first housing (the bottom of the cartridge/first housing is attached to the second/printer housing, as seen in fig. 4).

With regards to claim 8, the first storage medium stores identification information of the controlled part and the first housing in association with each other (column 6, lines 35-67).

With regards to claim 9, the control information stored in the first storage medium is provided with different values according to operational positions of the mechanical module (electrical capacitance or resonance frequency of the piezoelectric elements is stored in the first storage medium, column 1, lines 56-column 2, line 8, the values being dependent upon the operational positions of the piezoelectric elements).

With regards to claim 11, the driver drives a motor (the driven piezoelectric actuator converts electric energy to mechanical energy and imparts motion).

Pan et al. does not disclose a detector that determines if the mechanical module is in a static condition or a dynamic condition, when the power supply device supplies the drive power to the drive source while changing the drive power, wherein operation conditions associated with the static condition and the dynamic condition of the mechanical module determined by the detector are temporarily stored in a storage medium.

Silverbrook discloses a detector that determines if a mechanical module is in a static condition or a dynamic condition, when a power supply device supplies drive power to a drive source while changing the drive power (abstract), wherein operation conditions associated with the static condition and the dynamic condition of the mechanical module determined by the detector are temporarily stored in a storage medium (41, column 5, lines 34-40).

It would have been obvious to one having ordinary skill in the art at the time of the invention to incorporate the invention of Silverbrook into Pan for the purpose of providing a means to calibrate an ejection device .

#### ***Allowable Subject Matter***

Claims 3, 6, 7 and 10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 12-14 are allowed.

#### ***Response to Arguments***

Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection.

#### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julian D. Huffman whose telephone number is (571) 272-2147. The examiner can normally be reached on 10:00a.m.-6:30p.m. Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

**/Julian D. Huffman/**  
Primary Examiner  
Art Unit 2853  
27 November 2007